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REMARKS/ARGUMENTS AND INTERVIEW SUMMARY

This amendment and Interview Summary follows a November 9, 2005 in person interview Summarized below. During the interview, agreement was reached that Applicants arguments overcame the prior art rejection based on U.S. Patent No. 6,490,705 to Boyce (hereinafter the Boyce patent) and that the Examiner would withdraw the indefiniteness rejection regarding the use of the term "low density parity check code" made with regard to claims 9 and 18 given that the term is recognized in the art and that Applicants' example of a (3,6) code in the background was consistent with LDPC examples found in the art. The interview is summarized below.

The Examiner is invited to contact Applicants' undersigned representative by phone if, after consideration of this amendment, there are any issues which still need to be resolved to place the application in condition for allowance.

I. Introduction

Claims 1-22 are pending. The claim amendment have been amended to clarify the claims in response to §112, second paragraph rejections. In addition, Applicants deleted reference to "a transmission unit identifier" previously found in various independent claims since this element was not required for various embodiments or to distinguish over the applied art.

In the office action, the Examiner raised various objections to the Specification. In addition, the Examiner rejected claims 1-22 under 35 U.S.C. §112, second paragraph. It is respectfully submitted that the objections/indefiniteness rejections have been overcome by the above amendments and following remarks. No new matter has been added by the clarifying amendments made herein.

The prior art rejection and various indefiniteness rejections are addressed and overcome in the Interview summary which follows.

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**III. Interview Summary**

1. **Date of Interview:** November 9 2005
2. **Type of Interview:** In-Person
3. **Name of Participants:**  
Applicants' rep: Michael Straub  
Inventor: Hui Jin  
Examiner: Stephen M. Baker
4. **Exhibit(s) Shown:** No Exhibits were shown.
5. **Claims discussed:** Claim 1 was discussed.
6. **References Discussed:** U.S. Patent No. 6,490,705 to Boyce
7. **Proposed Amendments discussed:**  
Applicants did not discuss particular claim amendments but indicated the claims and specification

would be amended to address and overcome the objections/indefiniteness rejections.

#### **8. Discussion of General Thrust of the Principal Arguments**

Applicants arguments which were presented in the Interview will now be discussed.

##### **A. The Objections to the Specification and Indefinites rejections of the Claims**

Applicants indicated that they would amend the specification and claims to address and overcome the majority of the objections and indefinites rejections. For example, Applicants indicated that they would amend the specification to clarify paragraph 0047 which was objected to for various reasons. Applicants' indicated that the planned amendment to paragraph 0047 (Application page 10, line 30) would address and overcome the objection to paragraph 0048 since the indices would be changed to reflect the range  $\varnothing$  to  $z \times a-i$  instead of 1 to  $z \times a$ . Thus, by amending paragraph 0047 which corresponds to Page 10, line 30 of the application, Applicants believed they would overcome the objections to paragraph 0047 and 0048 at the same time. The beginning portion of paragraph 0047 was deleted and the text corresponding to the deletion was added at page 8, line 3 as a new paragraph since this location seemed more appropriate for the text. Applicants believe that this change clarifies the application. The Examiner seemed to appreciate that such changes would overcome the infiniteness issues raised in the office action.

With respect to the reference to the (3,6) regular LDPC code found in paragraph 0019 of the published application and the Examiner's comments that it appears to "beg the question of what is meant by "Low Density" in "Low Density Parity Check Code", the Inventor argued that "Low Density" was well known in the art and that the (3,6) regular LDPC code was an example of an LDPC code used in one or more well known publication on LDPC codes. In view of the Inventor's arguments, the Examiner agreed to withdraw the objection to the specification based on the reference to the (3,6) regular LDPC code and the corresponding indefiniteness rejection of claims 9 and 18 without requiring amendment of the background or claims to overcome this particular objection and indefiniteness rejection.

**B. The Obviousness Rejections have Been Overcome**

With respect to the obviousness prior art rejections, Applicants representative focused the discussion on claim 1. It was noted that claim 1 was directed to a method of processing a plurality of  $Z$  vectors which corresponded to a binary codeword where the elements corresponding to the codeword were arranged in rows and columns which could be accessed based on a  $Z$  vector identifier used to identify a column and a row identifier in accordance with the invention.

In Boyce's application, the interleaving and de-interleaving is byte-based. In other words, every reading and writing unit is a byte. In our case, interleaving

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unit is P-bit. And each Z-vector includes multiple numbers (greater than 1) of such units.

Based on the description on column 7 and 8 of the Boyce patent it was argued that the Boyce's interleaving is illustrated in the following:

Data stream comes in as bytes B0, B1, B2, B3, ....  
These bytes are interleaved to be

B1	B2	B3	...
B651	B652	B653	...
B1302	B1303	B1304	...
...	...	...	

These bytes are encoded by RS code vertically, **each column generating an independent codeword**, and then de-interleaved to form packets by reading each row sequentially.

Two distinctive features were discussed: 1) The interleaving in Boyce is all byte-based with there being no support for accessing a subset of the byte found in a row and 2) coding is column based with each column corresponding to a different codeword.

Thus, in Boyce, each column corresponds to a different codeword. This results in a memory structure which is very different from, and does not anticipate or render obvious the access method of the invention where a codeword is stored using rows and columns and portions of the codeword word included in a row, e.g., less than the full content of a row, can be read from memory using the set of control information which includes both a Z-vector identifier corresponding to a column and a row identifier.

In view of the distinctions with the Boyce patent which was not directed to LDPC coding at all, Applicants

submitted that the claims were patentable over the applied reference.

**12. Other Pertinent Matters Discussed:**

None.

**13. General Results/Outcome of Interview**

The Examiner agreed that Applicants' arguments with regard to the prior art reference overcame the rejection and that Applicants arguments regarding "low density parity check codewords" being well known in the art would overcome the indefiniteness rejections of dependent claims 9 ln 18. The Examiner agreed to review Applicants amendments with regard to the specification and indefiniteness rejections of the claims further after receiving Applicants written response.

**IV. Conclusion**

In view of the foregoing amendments and remarks, Applicants respectfully submit that the pending claims are in condition for allowance. Accordingly, Applicants request that the Examiner pass this application to issue.

If there are any outstanding issues which need to be resolved to place the application in condition for allowance the Examiner is invited to contact Applicants' undersigned representative by phone to discuss and hopefully resolve said issues. To the extent necessary, a petition for extension of time under 37 C.F.R. 1.136 is hereby made and any required fee is authorized to be

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charged to the deposit account of Straub & Pokotylo,  
deposit account number 50-1049.

Respectfully submitted,

March 20, 2006

  
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**CERTIFICATE OF FACSIMILE TRANSMISSION**

I hereby certify that this paper (and any accompanying paper(s)) is being facsimile transmitted to the United States Patent Office on the date shown below.

Michael P. Straub

Type or print name of person signing certification

  
Michael P. Straub  
Signature

March 20, 2006

Date